Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
700 Heinz Avenue
Berkeley, California 94710-2721

Arnold Schwarzenegger
Governor

August 30, 2006

CERTIFIED MAIL

Ms. Ellen Raber
Department Head
Environmental Protection Department
Lawrence Livermore National Laboratory
P.O. Box 808, L- 626
Livermore, California 94550

Dear Ms. Raber:

On April 25, 26, 27 and 29, 2005, the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC), conducted an inspection of Lawrence Livermore National Laboratory (LLNL), 7000 East Avenue, Livermore, California. The enclosed report describes the findings of this inspection, including all violations and any actions that should be taken by the facility to correct the violations.

The following violations which are described in this inspection report were found subsequent to the inspection and were not listed in the Summary of Observations left with you at the end of the inspection.

Class II Violations

Unauthorized Storage of Hazardous Wastes

1. LLNL violated title 22, California Code of Regulations, title 22, section 25201 (a) in that LLNL stored mixed wastes without a permit or authorization from the DTSC, to wit:

   a. From on or about July 9, through October 19, 2004, containers of mixed waste (Q00205896, Q00205897 and Q00205898), were stored in Waste Accumulation Area (WAA) T-6498, a 90-day generator accumulation area. The bins contained quad tank pieces from the closure of Area 514 Storage and Treatment Facility. On October 1, 2004, LLNL applied for a 30-day extension to store the waste, but DTSC denied the request.

   The bins were moved to a permitted storage area, Area 612-5, on October 19, 2004.

b. From on or about July 9 through October 22, 2004, containers of mixed waste (Q00201123, Q00201124, and Q00201125), were stored in WAA T-6498, a 90-day generator accumulation area. The bins contained quad tank pieces from the closure of Area 514 Storage and Treatment Facility. On October 1, 2004, LLNL applied for a 30-day extension to store the waste, but DTSC denied the request.

The bins were moved to a permitted storage area, Area 612-5, on October 22, 2004.

c. From on or about July 9 through October 14, 2004, bins (Q00201119, Q00201120, Q00201121, and Q00201122) containing mixed waste piping from the closure of Area 514 Storage and Treatment Facility, were stored in T-6498 WAA. On October 1, 2004, LLNL applied for a 30-day extension to store the waste, but DTSC denied the request.

The bins were moved to a permitted storage area, Area 612-5, on October 14, 2004.

Corrective Action

No further action is required. The bins had been moved to a permitted storage area. For future 30-day storage extension requests to the 90-day generator storage, please submit applications at least 10 days before the 90-day storage limit is reached; 10 days is needed by DTSC to process the extension request.

Failure to Provide Personnel Annual Review of Training

2. LLNL violated Health and Safety Code 25202(a), California Code of Regulations, title 22, sections 66270.30(a) and 66264.16(a) (1) and (b), and HWFP III.N.3., in that on or about April 25, 2005, LLNL failed to provide annual review of training, to wit:

a. Course 5120-013, Waste Management Unit Inspection, Procedures, and Emergency Response- Size Reduction Unit, was not provided to Chad Davis, Sampling Tech Lead, in 2004 and 2005. LLNL started using the Size Reduction Unit in December 2004.

b. Course HS -1670 CBT, Qualifications for Fire Extinguisher Users, that was due on or about March 2005 was not provided to Aaron Hunter.

Corrective Action

Within 30 days of receipt of this report, LLNL shall submit to DTSC, documentation to demonstrate that all required training courses have been provided to Chad Davis and Aaron Hunter.

Labeling Violations

3. LLNL violated Health and Safety Code section 25202 subdivision (a), California Code of Regulations, title 22, section 66270.30 (a) and Hazardous Waste Facility Permit Part IV.11 (a) in that, LLNL failed to comply with the permit labeling requirements to wit:

   a. On or about April 25, 2005, container Q00020575/W244186, containing shredded solid mixed waste, EPA waste codes- F002, F005, D035, D039, and D040, observed in Area 612-5, was labeled with a TSDF date of 8/4/04, and accumulation start and end date of 4/30/86. A review of the CCR for Q00020575 showed that the actual TSDF date is 4/30/86, not 8/4/04 as shown on the label. According to LLNL, the error on the container was a result of the database system being updated in 2004.

   b. On or about April 25, 2005, container Q12307/R023088, containing sludge trash and trash wipes (wipes, gloves, and pipettes) from clean-out of bulking station, observed in Area 612-100, was labeled with a TSDF date of 3/1/95, and accumulation start and end date of 2/2/95. A review of the CCR showed the TSDF date as 2/2/95, not 3/1/95 as shown on the label. Also see Violation 4.c.

Corrective Action for 3.a. and b.

Effective immediately, LLNL shall accurately label the above containers as required. Within 30 days of receipt of this report, LLNL shall submit a certification that the above containers had been correctly labeled.

Failure to Keep Accurate Operating Records

4. LLNL violated 66264.73 subdivision (b) in that, LLNL failed to keep an accurate operating record, to wit:

   a. On or about April 25, 2005, LLNL's operating records show that 3 waste containers (612H117, 612H118, and 612H120) were associated with

W12737[1]. Based on LLNL's Waste Analysis Plan, a WDR accompanies the waste from point of generation through its acceptance into a permitted storage area. A review of W127137 shows that the waste came from 612H117 (612H120 was crossed–out on the WDR). A second document, "Master List, Legacy Chlorosolvents, SAW 98-002 Rev 3, shows that a composite sample, W127137, was from 612H120. A third document, a transaction query that shows the transfer of waste from portable tank to container (See footnote).

Corrective Action

Within 30 days of receipt of this report, LLNL shall submit to DTSC the appropriate WDR and/or container information for W12737. In addition, submit corresponding WDR's for 612H117, 612H118, and 612H120.

b. On or about April 25, 2005, Q63697/W217436, containing spent vacuum pump oil, California Waste Code 221, a low level waste, was observed in Area 612-2, Container Storage Unit (CSU). The CCR for container Q63697, showed its location as Area 614E, different from its actual location.

Corrective Action

Within 30 days of receipt of this report, LLNL shall submit to DTSC, a certification that the operating record has been changed to reflect the actual location of container Q63697/W217436.

c. On or about April 25, 2005, the label on Q12307/R023088, sludge and trash wipes (wipes, gloves, and pipettes) from clean-out of bulking station, showed a TSDF date of 3/1/95, accumulation start and end date-2/2/95. The container was observed in Area 612-100 on April 25, 2005.

The CCR showed the TSDF Date as 2/2/95, different from the TSDF date observed on the label. Also see Violation 3.b.

[1] W127137 represents one of the wastes in the five individual containers sent to ATG on September 29, 2000. Based on the transaction query, conducted on September 22, 2000, wastes were transferred from portable tank to containers; corresponding WDR is shown as follows: 612B103/W105990 to Q56943; 612B104/W108085 to Q56942; 612B102/W105989 to Q56941; 612B101/W123208 to Q56940; and 612H118/W12737 to Q56939.

Corrective Action

Within 30 days of receipt of this letter, LLNL shall submit to DTSC records and/or any documentation showing the correct TSDF date for the above container.

Failure to Remedy Deterioration Found on an Inspection

5. LLNL violated title 22, California Code of Regulations, section 66264.15 (c) in that, LLNL failed to remedy deterioration found from an inspection, to wit:

On or about July 20, 2004, a weekly inspection conducted at Building 695 revealed a crack in the reagent berm area. LLNL employee D. Sanders completed a Support Services Request Form (SSR) No. 695-2004-08, as follows: "The floor in the reagent Tank Berm is beginning to crack. Please arrange to have the cracks in epoxy repaired."

The weekly logs had recorded the same observation. As of April 27, 2005, the date of the records review, the cracks have not yet been repaired. LLNL stated that the cracks have not been repaired due to the rain.

Corrective Action

Within 30 days of receipt of this report, LLNL shall submit to DTSC, documentation to demonstrate that the crack in the reagent berm has been repaired.

You are required by section 25185(c)(3) of the Health and Safety Code to submit a written response to DTSC within 30 days describing the corrective actions that you have taken or propose to take to bring your facility into compliance. If you dispute any of the violations, you should explain your disagreement in this written response. The issuance of this letter does not preclude DTSC from taking administrative, civil, or criminal action as a result of the violations noted in the report.

All pertinent information derived from the inspection, including documents, photographs, and sampling results, are included as attachments to the report, except copies of documents provided by your facility at the time of the inspection. In order to reduce copying and mailing costs, these have not been returned to you with the report; copies will be provided if you request them. This report will become a public document; you may request that any trade secret or facility security information be withheld from public disclosure. (See Health and Safety Code Section 25173 attached.)

If you wish to assert the trade secret privilege after you have reviewed the report, please provide specific answers to each of the following questions, for each item, within 10 days of receipt of this letter:

1. To what extent is there knowledge of the information conveyed by the photograph/document outside your business?

2. To what extent is there knowledge of the information conveyed by the photograph/document, by employees and others in your business?

3. To what extent have measures been taken to guard the secrecy of the information?

4. Is the information valuable to competitors? If so, why?

5. Has there been substantial monetary expenditure in the development of the information?

6. Could the information be easily and properly acquired or duplicated by others?

DTSC will review this information to determine if the information should be treated as trade secrets and notify you accordingly. If you have any questions regarding this letter, or if you wish to meet with DTSC to discuss any questions or concerns you have with the inspection, the report, the violations, or the proposed corrective action, please call me at (510) 540- 3869.

Sincerely,

Original signed by Luz Castillo
Luz T. Castillo
Senior Hazardous Substances Scientist
Statewide Compliance Division

Enclosure

Certified Mail No.: 7003 1680 0002 6761 3473

cc: Mr. Mohinder Sandhu (without attachments)
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826-3200

INSPECTION REPORT

I. GENERAL INFORMATION

Company Name: Lawrence Livermore National Laboratory

Facility Address: 7000 East Avenue

Livermore, California 94550

Telephone Number: (925) 423 - 4760

EPA ID Number: CA2 890 012 584

Facility Type: Storage and Treatment Facility

Regulated Units: Permitted Units-Area 612, Storage and Treatment; Building 695, Storage and Treatment, Building 693, Container Storage; Interim Status- Area 514, Storage and Treatment, Building 233, Container Storage (inactive -undergoing closure); Tiered Permitting-Resin Mixing Unit.

Waste Streams: Nearly all hazardous wastes, mixed wastes (RCRA hazardous with radioactive components); combined wastes (Non-RCRA hazardous waste with radioactive components)

Regulatory Status: Permitted and Interim Status Facility; Permit effective November 19, 1999 ; Registered Hauler, Reg. No. 1351

Inspected by: Luz Castillo; Eric Brocales;

Dates of Inspection: April 25 , 26, 27 and 29, 2005

Type of Inspection: CEI ■ CME ❑ O&M ❑ Focused ❑ Limited ❑

Type of Business: Research and Development Laboratory on: nuclear weapons, magnetic fusion, energy, lasers, biomedical and environmental sciences, and applied technology, and other nuclear applications research laboratory.

II. CONSENT

Consent to conduct inspection that involves: taking photographs, reviewing and copying records, questioning personnel and inspecting hazardous waste handling areas.

Consent given by (name and title): Sav Mancieri, Group Leader, Permits and Regulatory Affairs; Peter Yimbo, Environmental Analyst

III. BACKGROUND

Lawrence Livermore National Laboratory (LLNL) is a national laboratory owned and operated by the United States Department of Energy (DOE). LLNL is jointly operated by the University of California Regents and DOE. LLNL operates a research and development facility to conduct research and development programs on nuclear weapons, magnetic fusion, energy lasers, biomedical and environmental sciences, and applied technology.

The research and development programs at LLNL generate hazardous, mixed and combined wastes. Mixed wastes are hazardous wastes, regulated under the Federal Resource Conservation and Recovery Act (RCRA) that also contain low level radioactive materials. Mixed wastes generated include rinsewater that contains organics or metals, spent caustic and acidic solutions, soils from clean-up activities, scrap metal, waste treatment sludges, and empty containers. Combined wastes are non-RCRA hazardous wastes that also contain low level radioactive materials. Combined wastes generated at the laboratory include waste oils, contaminated laboratory trash, and empty containers.

In February 1997, DTSC issued a Compliance Order to the United States Department of Energy (DOE) requiring DOE to comply with the Site Treatment Plan (STP) for the treatment of mixed waste at LLNL pursuant to RCRA as amended by the Federal Facility Compliance Act of 1992 (FFCA). The FFCA required DOE to prepare a STP for developing treatment capacities and technologies to treat all the facility's mixed waste to meet LDR. The STP consists of the Compliance Volume and the Background Volume. The Compliance Volume provides overall schedules for achieving compliance with LDR storage and treatment requirements for mixed wastes based on milestones (milestones have both an event and a date component, and is a fixed, firm, and enforceable obligations of DOE). Background Volume contains progress reports and other information. DOE is required to carry out all activities in accordance with the schedules and requirements in accordance with the STP and the Compliance Order.

The combined waste, which is regulated only under state law, is regulated under the terms of the Memorandum of Understanding (MOU) between DTSC and DOE. The MOU, signed on August 18, 1997, sets forth agreed upon terms for determining the future regulation of combined wastes at DOE facilities. DTSC and DOE agreed to complete a Memorandum of Agreement (MOA) for both agencies to discuss the requirements for future regulation of combined waste. Pending the finalization of an MOA, DTSC agreed to refrain from taking enforcement action against DOE with respect to the treatment, storage and disposal of combined wastes without a permit or authorization, provided the management of the combined waste streams is consistent with DOE.

LLNL is operating a hazardous waste and mixed waste storage and treatment facility under a Hazardous Waste Facility Permit (HWFP) issued to LLNL on November 19, 1999. Modifications in 2001, 2002, 2003 and 2004, are listed in Appendices A and B of the Hazardous Waste Facility Permit (HWFP), Attachment B.

Prior to the issuance of the HWFP, LLNL was under interim status. The HWFP allowed LLNL to continue operating under Interim Status, the Building 233 Container Storage Unit and specific units at Area 514 Treatment and Storage Area, until the completion of the construction and activation of the DWTF Complex and Building 280 Container Storage Unit. The DWTF Complex commenced operation in September 2003.

On April 13, 2001, LLNL informed DTSC of its intent to submit a permit modification request to remove Building 280 Container Storage Unit from the permit. On January 9, 2004, LLNL submitted a class 2 modification request to relocate the currently permitted storage capacity and operation from Building 280 to Building 696 R and to administratively close Building 280. The modification request was granted on December 9, 2005 (Attachment Z).

Building 233 Container Storage Interim Status Unit is currently in the process of closure pursuant to LLNL's Phase I Workplan submitted and approved by the DTSC on April 26, 2004. The final Closure Plan for Area 514 was approved on April 30, 2004 (Attachments L and M); Closure activities began in May 2004. Area 514 consisted of buildings and areas where hazardous wastes have been treated and stored. The treatment and storage areas were phased out of service as the new DWTF became active. Some of the treatment equipment at Area 514 were relocated to the DWTF. See Attachment B, HWFP, Exhibit A, Transition Summary: Transfer of Existing Waste Treatment Units to the DWTF. The Transition Summary in the permit did not include the transfer of the Area 514 Waste Filtration Unit (Dorr-Oliver Unit) to the DWTF. On January 9, 2004, LLNL submitted a Class 2 modification request to replace the Building 695 Wastewater Filtration Unit provided in the approved Operation Plan, with the Area 514 Dorr-Oliver unit; DTSC approved the relocation of the Dorr-Oliver Unit into B695 on December 9, 2005 (Attachment Z). The January 9, 2004, modification request also included the transfer of the Drum Crushing Unit from Building 612 to Building 696 in the DWTF.

Another Building that was also operated under interim status was Building 419. The Closure Plan for the building has not yet been approved by DTSC.

Since the effective date of the HWFP, DTSC has conducted yearly inspections at LLNL. During the March 2000, May 2002 and March 2003 inspections, class I violations were observed which included the: storage of mixed wastes containing trichloroethylene, toluene, and spent organic solid trash for more than one year; storage of hazardous waste drums containing organic liquid trimsol and water; receipt, treatment and storage of liquid shredder waste without following the Waste Analysis Plan; and failure to provide employees with the required training courses for handling hazardous wastes. The Class 1 violations were settled in a Consent Order, HWCA 20020090, dated February 5, 2004. The 2001 inspection found class 2 and minor violations on: container labeling and inaccurate operating record.

In the 2004 inspection, class 1 violations were observed as follows: commingling incompatible wastes in the same container; certifying prohibited wastes for land disposal without meeting treatment standards; failure to comply with the Waste Analysis Plan; storage greater than one year; failure to comply with labeling requirements; failure to follow the Waste Analysis plan; failure to accurately record observations in an inspection log. All violations have been corrected based on documents provided to DTSC by LLNL. The Class 1 Violations from the 2004 inspection were settled in a Consent Order, HWCA20040573, dated August 28, 2006.

A copy of the Consent Order(s) and inspection reports from 2001 to 2004 are available on the DTSC website at http://www.dtsc.ca.gov/hazardous waste/LLNL.

IV. DOCUMENTS REVIEWED

a. Manifests, Bills of Lading, LDR's and Exception Reports:

Generator Manifests

Generator manifests for April 2005 were requested and reviewed on April 26, 2005. No violation was found from the review.

TSDF Manifests

Prior to the inspection, LLNL's off-site manifest records from late 2003 to the present were reviewed from the Hazardous Waste Tracking System (HWTS), DTSC's manifest database that tracks the movement of hazardous waste from the generator to the receiving treatment, storage and/or disposal facility (TSDF).

In my review of DTSC's HWTS, I noticed that four (4) drums of hazardous waste from Richland, Washington, were received by LLNL. LLNL is not permitted to receive off-site shipments except from LLNL Site 300.

I requested a copy of the manifest that accompanied the 4 drums from Washington. Manifest receipts from off-site wastes received from LLNL Site 300 were also requested. See details below.

Receipt of Off-site Waste from Richland, Washington

On October 21, 2003, LLNL received 4 drums of mixed waste from Pacific Eco Solutions (PECOS), accompanied by manifest no. 22301051 (Attachment D). According to LLNL, in October 2003, PECOS found the 4 drums of waste from LLNL during an audit at ATG, a facility that had closed, located in Richland, Washington. LLNL sent 5 drums of mixed waste to ATG in September 2000[1]. PECOS generated a new manifest (No. 22301051, Attachment D), which accompanied the 4 drums of wastes that were shipped back to LLNL on October 20, 2003. Manifest no. 22301051 showed "PECOs for LLNL "as the generator and LLNL as the "Designated Facility". LLNL received the returned shipment on October 21, 2003.

Since LLNL is not permitted to receive off-site hazardous waste except from LLNL Site 300, LLNL sent a letter informing DTSC that manifest no. 22301051 was for waste shipped to ATG in 2000 and returned untreated to LLNL. An Exception Report letter was sent to DTSC on November 24, 2003 (See Attachment D).

On November 10, 2003, the four drums of waste (containers Q56940, Q56939, Q56942, and Q56943), were finally shipped to ETTP Site, TSCA incinerator, in Oak Ridge, Tennessee. See manifest no. 21766644 (Attachment D).

Manifest no. 97259009, Shipment from LLNL Site 300
The above manifest that accompanied the shipment of waste from Site 300 was reviewed. No violation was noted.

b. Contingency Plan:

The plan was not reviewed. There has been no change in the Contingency Plan.

c. Training Plan and Records:

The training record for 3 employees - Winston Ingram, Chad Davis, and Aaron Hunter were reviewed. The following were noted from the review:

1. Winston Ingram, Legacy Waste Technician (6/23/03 – present), has taken all the required training as of the date of the inspection.

2. Chad Davis, Sampling Technician (6/19/00-03/10/03) and Sampling Tech Lead (03/10/03-present)

   In 2004 and/or 2005, LLNL failed to provide Mr. Davis with the required training course EP 5120-013, Waste Management Unit Inspection, Procedures, and Emergency Response for

[1] On September 29, 2000, LLNL shipped 5 drums (containers Q56940, Q56939, Q56941, Q56942, and Q56943), accompanied by manifest no. 99555219, to ATG (Attachment D). PECOS found that 4 of the LLNL drums have not been treated and were shipped back to LLNL (Attachment D, manifest no. 22301051).

the Size Reduction Unit. LLNL had indicated from the 2004 inspection, that training on the Size Reduction Unit has not been provided since the unit has not began operation. The use of the unit began in December 2004 according to Mr. Jay Morris (See Attachment T, Inspection of the SRU). The training has not been provided to Mr. Davis as of the date of the inspection (Attachment V). See Violations Section, Class 2, Violation 2.a.

3. Aaron Hunter, Sampling Technician Contractor (5/12/03 -09/15/03), and Legacy Waste Technician (09/15/03 – present)

LLNL failed to provide Mr. Hunter with the required training, course HS1670-CBT, Qualifications for Fire Extinguisher Training that was due on or about March 2005 (Attachment V). See Violations Section, Class 2, Violation 2.b.

d. Incident Report:

No hazardous waste or mixed waste incidents that required the implementation of the Contingency Plan.

e. Waste Analysis Plan and Records (Attachment F)

A copy of the waste analysis conducted on the 5 drums of waste that were originally sent to ATG in Washington, on September 29, 2000, was requested for review.

The record showed that composite samples were taken from Area 514 tanks 612B102, 612B103, 612B104, 612B101 and 612H120 (See Attachment F, Legacy Chlorosolvents, Master List). Two composite samples, 46438 (top aqueous layer) and 46439 (bottom organic layer), were sent for analysis. The analytical results were reviewed and no violations were noted.

The Waste Disposal Requisitions (WDRs) associated with the Area 514 tanks, W105989, W105990, W108085, W123208, and W127137, were requested for review (Attachment E). In reviewing W127137, I noted that the WDR indicates that the waste was from 612H117, not tank 612H120, or 612H118,as shown on the composite sample list or container transaction record (Attachment F), respectively. When the WDR for 612H118 was requested from LLNL, W127137 was provided. See Table I on Item IV.f. Also See Violations Section, Class 2, and Violation 4.a.

f. Operation Log

Transfer of Area 514 chlorosolvent wastes from Portable Tanks To Containers

In reviewing the operating record on the tank transfer of chlorosolvents originally sent to ATG in Richland, Washington on September 29, 2000, I noted a discrepancy on the Waste Disposal Requisition record of the Area 514 tanks where the 5 drums of waste originated. The wastes were transferred from Area 514 tanks to containers, and placed in Area 612.
The transaction/transfer record shows that waste from the portable tanks were transferred into containers as follows: tank 612B103, transferred into container Q00056943; tank 612B104, transferred into container Q00056942; tank 612B102, transferred into container Q00056941; tank 612B101, transferred into container Q00056940; and tank 612H118, transferred into container Q0005639. Correlation on the transfer between the portable Area 514 tanks and containers are shown in the Table I.

TABLE I

Tank no. / Waste Disposal Requisition No. (Attachment E)	Container No. (Attachment F)
Tank no. 612B103 / W105990	Q00056943[2]
Tank no. 612B104 / W108085	Q00056942[3]
Tank no. 612B102 / W105989	Q00056941[4]
Tank no. 612B101 / W123208	Q00056940[5]
Tank no. 612H118 / W127137[6]	Q00056939[7]

Inventory Of Hazardous Wastes

LLNL's Hazardous Waste Facility Permit (HWFP) requires that the total volume of regulated and non-regulated waste and materials including radioactive materials (subject to the Atomic Energy Act) in each unit shall not exceed the storage capacities allowed in the permit. In addition, the permit requires that cumulative volume of regulated waste stored in all units including tanks at any one time shall not exceed 808,000 gallons [Attachment B, HWFP, IV.9. (a)].

Based on our review of LLNL's inventory of materials and wastes, including radioactive wastes in the permitted units , there were a cumulative total of approximately 371,000 gallons of regulated and non-regulated wastes. In addition, the amount of waste in each storage unit was compared with the capacity allowed in the permit. The cumulative total and the amount of waste stored in each permitted unit (Attachment K) was within the amount allowed in LLNL's permit (Attachment B). No violation was noted.

CONTAINER TRACKING

During the walk-through, containers were picked at random in the storage areas, to determine LLNL's compliance with the operating record requirements. The container labeling information and location were noted and compared with the facility's operating record.

Each container at LLNL has a barcode used for tracking the movement of the waste. The barcode on the waste container is scanned into Hazardous Waste Management's database, Total Waste Management System (TWMS) where various reports can be generated.

A Container Contents Report (CCR) was provided for each container as requested. The CCR information include items required for an operating record such as: container number and waste disposal requisition numbers; waste type; EPA/State waste code(s); waste description, hazard property(ies), quantity, waste form; container location; manifest number (if shipped off-site); and TSDF start date. For wastes stored over a year, STP information or storage extension letters were requested.

[2] Shipped to ATG on September 29, 2000, manifest no. 99555219; returned untreated to LLNL on October 21, 2003 (Attachment D, manifest no. 22301051); finally shipped to ETTP Site, TSCA incinerator, in Tennessee on 11/10/03, manifest no. 21766644 (Attachment D).
[3] Same as footnote 2.
[4] Shipped to ATG on September 29, 2000, manifest 99555219; Treated at ATG.
[5] Same as footnote 2.
[6] A review of WDR no. W127137 (Attachment E), shows that the waste was from 612H117. However, the composite sample record (Attachment F), also indicates that waste from tank 612H120 is associated with W127137. See Item VI, Violations, Violation 4.a.
[7] Same as footnote 2.

During the walk-through, approximately 28 containers were picked at random. The CCR for the containers were requested and reviewed; there were no violations and/or concerns noted from the review except for the following containers:

1. Q20575/W244186, shredded solid mixed waste, EPA waste codes- F002, F005, D035, D039, D040; the label showed a TSDF Date - 8/4/04, an accumulation start and end date- 4/30/86. Container was observed in Area 612-5.

   The TSDF date on the CCR (Attachment J) did not match the TSDF date - 8/4/04, on the container label. The CCR showed the Accumulation Start and End Date, and the TSDF date as 4/30/86. According to LLNL, the error on the container was a result of the database system being updated in 2004. The database used the inventory date of 8/4/04 as the TSDF date on the label, instead of the actual TSDF date- 4/30/86. See Item VI. Violations, Class 2, Violation 3.a.

2. Q63697/W217436, spent petroleum vacuum pump oil, California waste code 221, low level waste; the label showed a TSDF Date of 12/20/01. The container was observed in Area 612-2 Container Storage Unit on April 25, 2005.

   The CCR showed the storage location of the container as Area 614E (Attachment J), although the drum was observed in Area 612-2, CSU. See Item VI, Violations, Violation 4.b.

3. Q12307/R023088, sludge and trash wipes (wipes, gloves, and pipettes) from clean-out of bulking station; the label showed a TSDF date of 3/1/95, accumulation start and end date- 2/2/95; container was observed in Area 612-100 on April 25, 2005.

   The CCR (Attachment J) showed the TSDF Date as 2/2/95, different from the TSDF date on the label. See Violations Section, Violation 4.c. and Violation 3.b.

4. Q201133, a transportainer, containing 5 containers (Q88967, Q201107, Q201108, Q201110 and Q205887), was observed in Area 612-5 on April 25, 2005. The transportainer contained crushed steel tanks from Area 514 closure activities. The transportainer's label had an accumulation start and end date of 7/9/04, and a TSDF date of 11/23/04.

   The CCR showed the accumulation start and end date as 7/8/04 and 7/9/04, respectively (Attachment I). A review of Area 514 Partial Closure Report dated April 2005 indicated that removal of the tanks started on 7/14/04 (Attachments I and P, page A-23); the tanks were moved to Building 415 WAA on 7/30/04 (Attachment O, page 26; Attachment P, page A-30).

   The tanks were stored in a Waste Accumulation Area for greater than 90 days. LLNL requested a storage extension for the tanks on 10/12/04and was granted the extension on October 21, 2004 (Attachment Q, Approval of Storage Extension).

   On May 5, 2005, a WDR change request was completed for each of the 5 containers inside the transportainer, as a result of LLNL's review of Engineer's notes and pictures (See Attachment I, Area 514 Closure Report for the Wastewater Treatment Tank Demolition. The new dates were: accumulation start date: 7/14/04; and accumulation end date: 7/30/04.

   Other Area 514 Treatment Tanks, Piping and Debris from Closure Activities

   Operating record for the treatment tanks (six stainless steel tanks, and quad tanks) from the closure of Area 514 was requested during the inspection. The Area 514 Partial Closure Report dated April 2005 (Attachment O), was also reviewed. See details below.

Waste Water Treatment Tanks and Piping

The waste water treatment tanks consisted of six treatment tanks. The six treatment tanks were removed on July 30, 2004 and placed in the WAA near Building 412 (Attachment O, Partial Closure Report, page 26 and Attachment P, page A-30). On October 12, 2004, LLNL sent DTSC a storage extension application requesting a 30-day extension for the six stainless steel tanks located in Building 412 WAA (Attachment Q); DTSC granted the request. The tanks were crushed[8] using an excavator and placed in a transportainers, Q00201132 and Q00201133 on October 13, 2004 (Attachment H; page 26 of Attachments I and O). The crushed tanks were returned to Building 412 WAA and eventually moved to 612-5, a permitted storage area, on November 23, 2004 (Attachments O, pages 26 and 38, and Attachment P, page A-30, and Attachment I). The waste water treatment tank piping, a mixed waste, was removed in 20-ft sections, and placed into a bin on July 9, 2004. The bin was moved to Building 412 WAA on July 19, 2004 (Attachment O, page 26 and Attachment P, page A-19). On September 30, 2004, the piping were moved back to Area 514 and further cut to fit into four 7 ft x 4 ft x 4 ft metal boxes. On October 1, 2004, LLNL sent a storage extension application requesting a 30-day extension for the bins containing mixed waste contaminated stainless steel pipes; DTSC denied the storage request (Attachment G). The four (4) bins were stored over the 90-day allowed storage in a generator area before it was moved to a permitted storage area, 612-5, on October 14, 2004 (Attachment G, Status of B514 wastes without Extension Granted and CCRs for Q000201119, Q000201120, Q000201121, and Q000201122). See Violations Section, Class 2, Violation 1. c.

Quadruple Tank Unit

The unit consisted of four storage tanks [514R5AA and 514R5A8 (low level waste tanks) and 514R5A7 and 514R5A9 (mixed waste tanks)]. The tanks used for low level wastes were handled as radioactive wastes, while the other tanks were handled as mixed wastes. On July, 8, 2004, the mixed waste tanks, 514R5A7 and 514R5A9, were removed and moved to the T-6498 WAA (Attachment O, page 27 and Attachment P, page A-19). On October 1, 2004, LLNL sent DTSC a storage extension application requesting a 30-day extension for the bins containing mixed waste quad tanks; DTSC denied the storage request (Attachment G). On October 16, 2004 (Attachment P, page A-38), the size reduction[9] for the mixed waste quad tanks began. The quad tank pieces were placed in metal boxes, Q00205896, Q2005897, Q002005898, Q00201123, Q00201124, and Q00201125. The metal boxes were stored in a generator accumulation area, T-6498 WAA for over 90 days until they were moved to a permitted storage area, 612-5, on October 19, 2004 (Q00205896, Q00205897, and Q00205898) and October 22, 2004 (Q00201123, Q00201124, and Q00201125) [Attachment G, Status of B514 wastes without Extension Granted and CCRs for Q00205896, Q00205897, Q00205898, Q00201123, Q00201124, and Q00201125]. See Violations Section, Class 2, Violation 1.a. and b.

TREATMENT UNITS PROCESS LOGS AND INSPECTION
Records were requested from June 2004 to April 2005.

Area 612 Facility - B612 Drum Crushing Unit – inspection of the Container Crushing Unit, located in 612-100 consisted of: Safety Precautions check, pre-use and post-crush inspection of the unit (Attachment T, Daily

[8] Appendix B of the approved Area 514 Facility Closure Plan states, "After removal, the tanks will be disposed of either as totality or cut up as required by transportation and disposal site requirement." See Attachment M, page 15; Attachment N, page B-8.
[9] Same as footnote 8.

When In Use Inspection Log For Container Crushing Unit). A Drum Crush Log, listed the containers that were crushed and the destination of the crushed containers. The March 8, 2005 Crush Log showed that the crushed containers were placed in a roll- off bin, Q00205413, observed outside B693 during the inspection (Attachment T, Drum Crush Log). See Narrative of Observations, April 26, 2005, Building 693 Containers Storage Units. No violations were noted from the review of the inspection log and the drum crush log.

On January 9, 2004, LLNL sent DTSC a Class 2 modification request to move the B612 Crushing Unit to Building 696. The request was approved on December 9, 2005 (Attachment Z).

B612 Size Reduction Unit (SRU) –This unit was first used on December 8, 2004 and was last used on April 8, 2005, as of the date of the inspection. According to Mr. Jay Morris, the unit was not used for actual size reduction but was being used to check for prohibited items on the low-level wastes. According to Mr. Morris, the unit was being used for sampling/verification, repackaging and removal of liquid. This resulted in the shipment of more wastes, reducing the amount of wastes stored on-site. The process logs for the 2004 and 2005 SRU activities were requested and reviewed.

The Daily When In Use Inspection Log for B612 Size Reduction Unit, consisted of Safety Precautions check, and checking the entrances and surrounding areas for cautionary signs and for signs of spills, erosion, and leakage (See Attachment T). No violations were noted.

DWTF Tank Farm-

The Tank farm consists of nine 5,000-gallon cylindrical tanks with conical bottoms. Two tanks, THL 113 and THL 112, had wastes in them and the rest were empty.

Tank THL 113 was labeled “From Blend 04-14 to 05-04, 2/10/05.” A review of the treatment log showed that blend no. 695-04-14 was generated from rinsing containers which generated 3,864 gallons of rinsate that was transferred to tank THL 113. See Attachment U, Blend Number 695-04-14. Other rinsate in tank THL113 was 4,036 gallons, generated from portable tank rinsate. See Attachment U, Blend Number 695-05-04.

Tank THL112 was labeled, “ Blend 695-05-04, 4/14/05.” A review of Blend number 695-05-04, showed that three portable tank of rinsate was transferred to THL112.

No violation was noted.

Debris Washer-

The treatment logs (Attachment U) dated May 4, 2004, January 4 and March 29, 2005 were reviewed. The treatment log information included: a blend number; process dates; name of technician; a debris log that contained a list of drums that were

processed, and container or WDR designation on the liquid generated from the debris washer, for tracking purposes. No violation was noted.

Uranium Deactivation Unit- The Uranium Bleaching Unit, as approved in the permit, was converted to a Uranium Deactivation Unit via a class 1 modification, on February 9, 2004 (Attachment B, HWFP).

The treatment and inspection logs for the Uranium Deactivation Unit were reviewed. The treatment log (Attachment U) included: the date processed; a description of the process conducted; name of technician, and a tracking number for the sludge generated from the process. The inspection log addressed the Safety Precautions that needed to be checked prior to the operation of the unit. No violations were noted

Solidification Unit - The stabilization treatment logs for November 30, 2004 and January 12, 2005, were reviewed. The logs (Attachment U) contained tracking information on the waste to be processed; description of the process, and the waste tracking information on the waste generated after treatment.

Additional Treatment Logs

The treatment logs for wastes processed in the Reactive Waste Processing Area in 2004 as listed in LLNL's 2004 Treatability Study Report were requested and reviewed. See Attachment R. The treatment activities performed were documented in the log which included the following: use of the glove box as the treatment unit; blend number; name(s) of technicians; process date(s); treatment code; and a description of the process/chemicals used. No violations were noted.

g. Inspection Records:

Daily and weekly inspection logs from June 2004 through April 2005 were requested and reviewed for Area 612, Area 514, Buildings 693 and 695.

Area 612 Facility

Daily Inspection for Area 612 Facility (Attachment S) included the following: Inspection of permitted storage areas- 625 east and west , tank trailer, 612-1 and 612-2, Portable Tank Area, 614 east and west, Building 612 (container storage), 612-5; and Staging Areas, checking for spills, leaks and precipitation. Observations noted and corrective action completed on the leaking eyewash in 612-100 was well documented. No violations were noted.

Area 514, Buildings 693 and 695

Building 514, Tank Farm - This facility is undergoing closure. DTSC approved the Closure Plan on 4/30/04 (Attachment L). Closure activities began in May 2004 (Attachment O, Partial Closure Report). The last inspection for Area 514 was last done on May 25, 2004 (See Attachment S). No violations were noted.

In addition to the inspection records, I asked for the status of the containers in Area 514 that were denied storage extension beyond the 90 days (See Attachment G). See more details on the

containers in Item IV.f.

Building 693 Storage - The Daily inspection for B693 included the inspection of the Storage Areas including the Portable Tank Storage Area and the Staging Areas, checking for leaks, spills and precipitation. Observations noted and corrective action performed on the precipitation observed in the sump was properly documented. See Attachment S. No violations were noted.

Building 695 (DWTF) - Daily inspection for Building 695 included the following: inspection of the tank farm tanks'- overfill/discharge control equipment system, monitoring equipment system, tank/frame/piping/valve condition/weld and joints, tank farm secondary containment , surrounding area, process off-gas system, and tank liquid waste level; all hazardous waste management processing and storage areas and staging areas- checking for leaks and detection monitoring operating conditions. See Attachment S. No violations were noted from the review of the logs.

The weekly inspection log for Building 695 was also requested and reviewed. In the April 27, 2005 inspection, the comment sheet showed, "repair cracks in reagent berm area, SSR. No. 695-2004-08." The previous weekly logs had recorded the same observation. In my review of Support Services Request (SSR) No. 695-2004, dated July 20, 2004, LLNL employee D. Sanders, completed the SSR form as follows: "The floor in the reagent Tank Berm is beginning to crack. Please arrange to have the cracks in epoxy repaired." From July 2004 to April 27, 2005 (date of records review), the cracks have not been repaired. See Attachment S. During the April 27, 2005 records review, LLNL stated that the cracks have not been repaired due to the rain. See Item VI. Violations, Violation 5.

Buildings 419 and 233

Weekly inspections are conducted at Buildings 419 and 233, inactive storage units. The weekly inspections were reviewed. No violations were noted.

h. Annual/Biennial Reports:

LLNL submitted its 2004 Annual Facility Report to DTSC on March 23, 2005. See cover letter on Attachment W.

i. Hauler Registration:

A vehicle used for hauling hazardous waste observed at the facility during the inspection, did not contain any hazardous waste; the vehicle was marked with the company name as required, and appeared to be in good operating condition. During the inspection, I requested a copy of the current transporter registration (Attachment X) kept inside the vehicle. No violation was noted.

LLNL's Hauler Registration will expire on November 30, 2006. No violations were noted from the review of transporter manifests/records

j. Permit Compliance Schedule

LLNL's Hazardous Waste Facility Permit Section IV.8. (e) [Attachment B], requires the submittal of a Small Scale Treatment Report to DTSC effective March 15, 2000 and annually thereafter.

LLNL submitted a 2004 Treatability Study Report consisting of these three small scale treatment operations: stabilization; depleted uranium oxidation; and oxidation in the Reactive Waste Processing Area. Treatment logs associated with the oxidation process in the Reactive Waste Processing Area were requested and reviewed, See Item IV.f. of this report, Treatment Unit Process and Inspection Logs.

k. Compliance With Consent Order

The Consent Order HWCA 20020090 (Attachment B), dated February 5, 2004, requires LLNL to submit semi-annually after March 5, 2004 (30 days of the effective date of the Order) an inventory of all treated wastes that meet LDR and that have exceeded the one year storage limit allowed in the permit.

During the inspection, I requested from LLNL information on the status of 50 containers (noted from a previous inspection), that have exceeded one year storage and storage extensions were requested. Information requested include: storage location, waste type, and LDR status.

Based on a review of LLNL's submittal (Attachment Y, DTSC Status Request), 2 out of the 50 that were storage containers had been shipped off-site. The remaining 48 containers are currently stored on-site, in the permitted storage areas.

V. NARRATIVE OF OBSERVATIONS/DISCUSSION WITH OPERATOR

See Site Maps, Attachment A, for reference.

April 25, 2005

DTSC employees (Steve Friesen, Eric Brocales and Luz Castillo) arrived at the West Badge office at approximately 9:30 a.m. for the processing of our badges to access the facility for an inspection. After obtaining the necessary badge/paper work, a pre-inspection meeting was held with Lawrence Livermore National Laboratory (LLNL) and Department of Energy (DOE) personnel at approximately 11:00 a.m. See Attachment AA, List of Attendees.

The meeting commenced with a brief introduction from each of the attendees. I informed them the purpose of our visit as a Compliance Evaluation Inspection that involves conducting a walk-through at permitted hazardous/mixed waste handling areas and generator areas, taking photographs, reviewing and copying records, and interviewing personnel. I also informed them that Mr. Steve Friesen's participation in the inspection was to provide Mr. Brocales and I, industrial hygiene, field safety and radiological monitoring support. I asked LLNL for consent to proceed with the inspection as I had described. Ms. Stephanie Goodwin, Division Leader for Radioactive and Hazardous Waste Management, granted us consent.

The walk-through inspection began with the inspection of Area 612 and ended after the inspection of Building 625. The inspection team was as follows: LLNL- Kerry Caldwell, Jay Morris, Mike Hayes; Richard Michalik, Earl Thomas, and Stan Terusaki; DOE – Wen Kao and Keith Warwick.

Area 612-4 Receiving, Segregation and Container and Storage Unit (Generator Status since 12/4/99)

This area is a Consolidated Waste Accumulation Area (CWAA), divided into five cells -Acids, Poisons, Caustics, and two Flammable Bays. The drums were properly labeled, stored and adequate aisle space between rows was observed. All drums were within the allowed 90-day storage limit. No violations were noted.

Building 612 Lab Packing/Packaging Container Storage Unit (Generator Status since 12/4/99)

Containers received in this area are segregated by waste type and hazardous waste characteristics. The containers were properly labeled, segregated, contained and managed. No violations were noted.

Area 612-5 Container Storage Unit

Area 612-5 consists of three areas: a tent area, a caged area, and an open area. The outside area contained non-hazardous waste only.

The tent area consisted of stacked boxes of mixed and radioactive wastes. The amount of wastes has been greatly reduced, as LLNL had been able to send the wastes out. The following containers were noted for records review: Q20575/W244186, RHWM Received Date- 8/4/04; Q20587/W246391, RHWM Received Date- 4/30/86; Q25673, RHWM Received Date- 01/23/97. See Item IV.F. for details on the operating records review.

The caged area, a classified storage area, consists of four transportainer - 612-5 TR1, 612-5 TR2, 612-5 TR3, and 612-5 TR4. Two of the transportainers were noted for records review: Q201132 and Q201133, RHWM Received date – 11/23/04. See Item IV.F. for details on the operating records review.

Building 614 Container Storage Unit

Building 614 consists of the west and the east cells with four storage units each. Containers stored in west cells - 1001, 1002, 1003, and 1004, and the east cells - 1101, 1102, 1103, and 1104 were properly labeled, and stored. Adequate aisle space was noted in each of the cells. The eyewash/shower near the west cells was checked and was found in good operating condition. Container Q82734/W226201, storage date- 6/7/03 was noted for records review. See Item IV.F. for details on the operating records review.

Posted outside each cell, was an inventory showing the amount of wastes in each container. This is the only permitted storage area at the facility where the capacity for the storage units is determined by the actual amount of waste held by the containers. For the other permitted storage units, capacity is based on the maximum capacity of each container stored in the units. See Attachment V, Hazardous Waste Facility Permit (HWFP), Part IV.9. (c), Attachment B.

Area 612 Portable Tank Storage Unit

The storage unit did not contain any portable tank during the inspection.

Area 612-2 Container Storage Unit

The containers in Area 612-2 appeared in good condition, and were properly stored. A 5-gallon container of spent organic liquid, Q63697, was noted for records review. See Item IV.F. for details on the operating records review.

Building 612 Container Storage Unit

Building 612 houses the Size Reduction and the Drum/Container Crushing Units and a Container Storage Area. The containers in this area appeared to be properly managed. The required aisle space was being maintained. The Size Reduction Unit (SRU) was first used on December 8, 2004 and was last used April 8, 2005. (See Attachment T, Daily When In Use Inspection Log). According to Mr. Jay Morris, LLNL, the SRU was being used to check prohibited items from the low-level wastes; this process enables LLNL to ship more waste off-site. As for the Container Crusher, the unit was last used on March 8, 2005. See Attachment T, Inspection Log for the Container Crusher.

The following containers were noted for records review: Q59949/W208089, RHWM Received Date-3/2/01; Q12307, Workplace start and end date is 3/1/95, and TSDF received date is 2/2/95. Also see Item IV.f. of this report.

Area 612-1 Container Storage Unit

This area consists of tents A and B, an open area, and 3 transportainers. The containers in tents A and B units 612-1A and 612-1-B, appeared to be in good condition and properly stored. Unit 612-1, the area between the tents contained only radioactive wastes. No violation was noted.

The following containers were noted for records review: 612-1A - Q66489/W206473, Lab Trash, RHWM Date-01/11/02, and Q20948/W110110, RHWM Date -10/17/96; 612-1-B – Q80872/W241822, RHWM Date-2/27/04 and Q75847/W222416, RHWM Date- 8/1/03; transportainer Q70557. See Item IV.F. for details on the operating records review.

Area 612 Tank Trailer Storage Unit

This storage area was empty.

Building 625 Container Storage Unit

The storage unit is divided into east and west areas. The east area contained mixed transuranic (TRU) and TRU only wastes. Due to elevated reading of >2millirem reading on the radiation meter (Ludlum 19), which exceeds DTSC's exposure limit, the containers were viewed from outside the door to Building 625 east. The drums appeared to be in good condition. The west area, which is used for storage of PCB, asbestos, and other radioactive wastes, was inspected. The containers appeared to be in good condition and were properly labeled. The required aisle space was being maintained between pallets. The eyewash/shower was found to be operating in good condition, with a last inspection date of 4/10/05. No violation was noted.

April 26, 2005

Before we (Castillo, Brocales, Friesen) proceeded with the inspection, I asked Mr. Yimbo if he would give us consent to continue the inspection; Mr. Yimbo granted us consent. I discussed the areas that I would be inspecting with DTSC, LLNL and DOE personnel. See Attachment AA, List of Attendees, April 26, 2005.

Ms. Kerry Cadwell informed us that she will be the lead in showing us the areas in Building 693 and outside areas; the rest of walk-through in Building 695 would be with Mr. John Bowers and Mr. Scott Kidd. Ms. Caldwell gave us a safety briefing before proceeding with the site walk-through. LLNL and DOE personnel present during the inspection are shown in Attachment AA, April 26, 2005.

DWTF Portable Tank Storage Pad

Portable tanks observed contained non-hazardous, hazardous and mixed wastes. The portable tanks were properly labeled and adequate aisle space was being maintained. The eyewash/shower in the area was checked and was found to be operating properly. The inspection tag on the eyewash/shower had the last inspection date of 4/20/05.

The following portable tanks were noted for records review: Q00213887/W229057, hazardous waste, RHWM receipt date - 4/21/05; Q0021108/W248608, non-hazardous, RHWM Receipt Date- 4/21/05; Q00086912/W207045, non-hazardous, RHWM receipt Date- 3/25/04; Q00201395, RHWM Receipt Date- 2/10/05; Q00086192, mixed waste, RHWM Receipt Date- 01/26/04; and Q00205413, hazardous waste, RHWM Receipt Date- 10/1/04. See Item IV.F. for details on the operating records review.

Vehicle Inspection

A vehicle observed during the inspection, did not contain any hazardous waste; the vehicle was marked with the company name as required, and appeared to be in good operating condition. I requested a copy of the current transporter registration (Attachment X) kept inside the vehicle for review.

Building 693 Container Storage Units

Building 693 is divided into four cells: 1000; 1004; 1008; 1012, and a Classified Waste Storage. The eyewash/shower in storage cells 1000 thru 1012 were tested, and they were all operating properly. The drums in the four cells and the Classified Waste Storage Area were properly labeled and stored, with adequate aisle space between pallets of drums. No violation was noted.

Outside building 693 was two bins. One was empty and the other one contained hazardous waste. The bin, Q00205413 starts and end dates of 1/26/04 and 7/13/04, respectively. The RHWM receipt date on the label was 10/01/04.

The following drums were noted for records review: cell 1000, Q00085889/W242720, RHWM Receipt Date- 5/13/04 and Q00087600/W214692, RHWM Receipt Date- 2/17/04; Cell 1004- R023767, RHWM Receipt Date – 2/17/04; cell 1008- Q00216009/W246964, RHWM Receipt Date- 2/24/05; Q00082079, RHWM Receipt Date- 1/13/05; Classified storage- Q00070618 (Q62997, inside)/W207015. See Item IV.f. for details on the operating records review .

Ms. Cadwell and Mr. Morris did not join us for the walk-through at Building 695.

Building 695 Container Storage and Treatment Units

Mr. John Bowers was the lead in the walk-through at Building 695. Mr. Bowers showed us the storage location of the containers and he also explained the various treatment processes and the process units used.

Liquid Waste Processing (LWP) Area, Room 1028

A group of containers observed in the area had above 2mR/hour reading on the radiation meter (Ludlum 19), which exceeded DTSC's exposure limit. Due to the high reading, the containers were viewed from a distance. The containers appeared to be in good condition, labeled and with adequate aisle space between pallets. An inventory of containers stored at LWP that day was requested for later review (Attachment K, LWP Inventory dated 4/26/05). The record for container Q00216379 (picked from the inventory) was requested and reviewed. See Item IV.f., Operating Records for details.

Tank Farm

The tank farm consists of nine 5,000-gallon cylindrical tanks with conical bottoms. Only two of the tanks contained wastes and were labeled as follows: From Blend 04-14 to 05-04, toluene, H3, 2/10/05 (THL 113); and Blend 095-05-04, 4/14/05 (THL112). No violations were noted. A copy of the treatment logs for tanks THL 112 and THL 113 were requested for records review. See Item IV.F. for details on the operating records review.

Filtration Unit

The new Filtration Unit planned for installation at DWTF was never installed. The Dorr-Oliver Unit (D.O. Unit) from Area 514, observed near the entrance to the LWP area, will replace the unit. The D.O. Unit has not been installed pending approval of a class 2 modification request. In a letter dated January 9, 2004, LLNL submitted a class 2 permit modification request for the relocation of the Dorr-Oliver Rotary Vacuum Filtration Unit from Area 514 to replace the B695 Filtration Unit.

Cold Evaporation Unit

The Cold Evaporation Unit is designed to concentrate dissolved radioactive and hazardous solids by evaporating the water from the waste, to produce a condensate for discharge into the sewer. The unit also reduces the volume of hazardous waste for off-site disposal.

During the inspection, Mr. Bowers explained that the cold evaporator was used for both mixed wastes and hazardous wastes. A copy of the Operation Plan pertaining to the Cold Evaporator Unit was provided by Mr. Michalik. Mr. Michalik said the unit is used for both Mixed and hazardous wastes. A photograph of the CVE Unit is on Attachment A, UCRL –Photo- 212114 (Photo. No. 1).

Miscellaneous Treatment Units Not in Operation

The following units were not in operation during the inspection: Gas Adsorption Unit; Centrifuge Unit (portable); Portable Blending Unit; Rinse Station and Tank Blending Unit.

B659 Air Lock (Room 1027) ,Container storage Area

From the LWP, we proceeded to the Airlock Room 1027 where we observed containers of wastes being stored. This area is permitted for storage of wastes. The containers were all properly stored, and labeled. No violation was noted.

Solidification Unit/Concrete Mixing Enclosure

The Solidification Unit (was not in operation) is located inside the Debris Washer Room. We could not enter the room since the Debris Washer was in operation at the time; the area was viewed through the door's glass window. The solidification unit was originally located in the Liquid Waste Processing Area (Room 1028) as approved in the November 19, 1999 permit. LLNL submitted a class 2 modification request on September 22, 2003 that included the relocation of the solidification unit. The relocation of the solidification unit in the Debris Washer Room was approved in a letter dated December 29, 2004.

Chopper/Shredder Rooms (Rooms 1038 and 1039, Respectively)

The chopper and the shredder according to Mr. Bowers have the same function except for the particle size. These units have not been in operation. We then proceeded to the Reactive Waste Processing Area.

Reactive Waste Processing Area (Room 1023)

There was no on-going activity in the RWP during the inspection.

Reactive Waste Storage Rooms (Rooms 1019-1022)

The Reactive Waste Storage Rooms consist of four rooms: 1019; 1020; 1021; and 1022. Containers observed were properly labeled, stored, and in good condition. A container, R016147 was noted for records review. See Item IV.f., Operating Records for details.

Small Scale Treatment Laboratory (Room 1017)

There was no on-going activity observed in the area. Satellite accumulation area containers of waste observed, were all properly labeled and maintained. See Photo Nos. 2-5, Attachment A.

Records Review

The records review portion of the inspection was conducted on April 27 and 29, 2005. Consent was requested from Mr. Yimbo prior to the records review on April 27 and 29, 2005. Mr. Yimbo granted us consent.

Records reviewed include but not limited to: manifests; inspection logs; treatment/process logs; operating records; waste analysis records; incident records; waste inventories; Emergency Coordinator list; permit modification requests; letters/records to document compliance with permit requirements, etc. See Item IV, Records Review, for details.

RCRA 6002

As part of the inspection, I informed Mr. Yimbo and Ms. Salvo of the requirement to complete the RCRA 6002 inspection documents that direct federal purchasing decisions for recycled content products; the same documents were completed by LLNL the previous year. The completed forms are shown on Attachment CC.

VI. VIOLATIONS

Class II Violations

Unauthorized Storage of Hazardous Wastes

1. LLNL violated title 22, California Code of Regulations, title 22, section 25201 (a) in that LLNL stored mixed wastes without a permit or authorization from the DTSC, to wit:

   a. From on or about July 9, through October 19, 2004, containers of mixed waste (Q00205896, Q00205897 and Q00205898), were stored in Waste Accumulation Area (WAA) T-6498, a 90-day generator accumulation area. The bins contained quad tank pieces from the closure of Area 514 Storage and Treatment Facility. On October 1, 2004, LLNL applied for a 30-day extension to store the waste, but DTSC denied the request.

      The bins were moved to a permitted storage area, Area 612-5, on October 19, 2004.

   b. From on or about July 9 through October 22, 2004, containers of mixed waste (Q00201123, Q00201124, and Q00201125), were stored in WAA T-6498, a 90-day generator accumulation

area. The bins contained quad tank pieces from the closure of Area 514 Storage and Treatment Facility. On October 1, 2004, LLNL applied for a 30-day extension to store the waste, but DTSC denied the request. The bins were moved to a permitted storage area, Area 612-5, on October 22, 2004.

c. From on or about July 9 through October 14, 2004, bins (Q00201119, Q00201120, Q00201121, and Q00201122) containing mixed waste piping from the closure of Area 514 Storage and Treatment Facility, were stored in T-6498 WAA. On October 1, 2004, LLNL applied for a 30-day extension to store the waste, but DTSC denied the request.

The bins were moved to a permitted storage area, Area 612-5, on October 14, 2004.

Evidence: Attachment G, LLNL's Storage Extension Request, DTSC's reply; and CCR for the bins; Attachment B, HWFP
Witness: Luz Castillo

Corrective Action

No further action is required. The bins had been moved to a permitted storage area. For future 30-day storage extension requests to the 90-day generator storage, please submit applications at least 10 days before the 90-day storage limit is reached; 10 days is needed by DTSC to process the extension request.

Failure to Provide Personnel Annual Review of Training

2. LLNL violated Health and Safety Code 25202(a), California Code of Regulations, title 22, sections 66270.30(a) and 66264.16(a) (1) and (b), and HWFP III.N.3., in that on or about April 25, 2005, LLNL failed to provide annual review of training, to wit:

a. Course 5120-013, Waste Management Unit Inspection, Procedures, and Emergency Response-Size Reduction Unit, was not provided to Chad Davis, Sampling Tech Lead, in 2004 and 2005. LLNL started using the Size Reduction Unit in December 2004.

b. Course HS -1670 CBT, Qualifications for Fire Extinguisher Users, that was due on or about March 2005 was not provided to Aaron Hunter.

Evidence: Attachment V, Training Records/Summary, Training Matrices
Witness: Luz Castillo

Corrective Action

Within 30 days of receipt of this report, LLNL shall submit to DTSC, documentation to demonstrate that all required training courses have been provided to Chad Davis and Aaron Hunter.

Labeling Violations

3. LLNL violated Health and Safety Code section 25202 subdivision (a), California Code of Regulations, title 22, section 66270.30 (a) and Hazardous Waste Facility Permit Part IV.11 (a) in that, LLNL failed to comply with the permit labeling requirements to wit:

a. On or about April 25, 2005, container Q00020575/W244186, containing shredded solid mixed waste, EPA waste codes- F002, F005, D035, D039, and D040, observed in Area 612-5, was labeled with a TSDF date 0f 8/4/04, and accumulation start and end date of 4/30/86. A review of

the CCR for Q00020575 showed that the actual TSDF date is 4/30/86, not 8/4/04 as shown on the label. According to LLNL, the error on the container was a result of the database system being updated in 2004.

Witnesses: Luz Castillo; Eric Brocales
Evidence: Attachment J, Q0020575.

b. On or about April 25, 2005, container Q12307/R023088, containing sludge trash and trash wipes (wipes, gloves, and pipettes) from clean-out of bulking station, observed in Area 612-100, was labeled with a TSDF date of 3/1/95, and accumulation start and end date of 2/2/95. A review of the CCR showed the TSDF date as 2/2/95, not 3/1/95 as shown on the label. Also see Violation 4.c.

Witnesses: Luz Castillo; Eric Brocales
Evidence: Attachment J, Q12307.

Corrective Action for 3.a. and b.

Effective immediately, LLNL shall accurately label the above containers as required. Within 30 days of receipt of this report, LLNL shall submit a certification that the above containers had been correctly labeled.

Failure to Keep Accurate Operating Records

4. LLNL violated 66264.73 subdivision (b) in that, LLNL failed to keep an accurate operating record, to wit:

a. On or about April 25, 2005, LLNL's operating records show that 3 waste containers (612H117, 612H118, and 612H120) were associated with W12737[10]. Based on LLNL's Waste Analysis Plan, a WDR accompanies the waste from point of generation through its acceptance into a permitted storage area. A review of W127137 shows that the waste came from 612H117 (612H120 was crossed–out on the WDR). A second document, "Master List, Legacy Chlorosolvents, SAW 98-002 Rev 3, shows that a composite sample, W127137, was from 612H120. A third document, a transaction query that shows the transfer of waste from portable tank to container (See footnote 10).

Witness: Luz Castillo
Evidence: Attachment E, WDRs 105990, 108085, 105989, 123208, and 127137; Attachment F, Organic Liquid /solvents, Master List, Legacy Solvents, SAW98-002 Rev 3; Also see Table I in IV.f.

Corrective Action

Within 30 days of receipt of this report, LLNL shall submit to DTSC the appropriate WDR and/or container information for W12737. In addition, submit corresponding WDR's for 612H117, 612H118, and 612H120.

[10] W127137 represents one of the wastes in the five individual containers sent to ATG on September 29, 2000. Based on the transaction query, conducted on September 22, 2000, wastes were transferred from portable tank to containers; corresponding WDR is shown as follows: 612B103/W105990 to Q56943; 612B104/W108085 to Q56942; 612B102/W105989 to Q56941; 612B101/W123208 to Q56940; and 612H118/W12737 to Q56939.

b. On or about April 25, 2005, Q63697/W217436, containing spent vacuum pump oil, California Waste Code 221, a low level waste, was observed in Area 612-2, Container Storage Unit (CSU). The CCR for container Q63697, showed its location as Area 614E, different from its actual location.

Witness: Luz Castillo
Evidence: Attachment J, CCR for Q63697

Corrective Action

Within 30 days of receipt of this report, LLNL shall submit to DTSC, a certification that the operating record has been changed to reflect the actual location of container Q63697/W217436.

c. On or about April 25, 2005, the label on Q12307/R023088, sludge and trash wipes (wipes, gloves, and pipettes) from clean-out of bulking station, showed a TSDF date of 3/1/95, accumulation start and end date-2/2/95. The container was observed in Area 612-100 on April 25, 2005. The CCR (Attachment J) showed the TSDF Date as 2/2/95, different from the TSDF date observed on the label. Also see Violation 3.b.

Witness: Luz Castillo
Evidence: Attachment J, CCR for Q63697

Corrective Action

Within 30 days of receipt of this letter, LLNL shall submit to DTSC records and/or any documentation showing the correct TSDF date for the above container.

Failure To Remedy a Deterioration Found on An Inspection

5. LLNL violated title 22, California Code of Regulations, section 66264.15 (c) in that, LLNL failed to remedy deterioration found from an inspection, to wit:

On or about July 20, 2004, a weekly inspection conducted at Building 695 revealed a crack in the reagent berm area. LLNL employee D. Sanders completed a Support Services Request Form (SSR) No. 695-2004-08, as follows: “The floor in the reagent Tank Berm is beginning to crack. Please arrange to have the cracks in epoxy repaired.”
The weekly logs had recorded the same observation. As of April 27, 2005, the date of the records review, the cracks have not yet been repaired. LLNL stated that the cracks have not been repaired due to the rain.

Witnesses: Luz Castillo; Eric Brocales
Evidence: Attachment S, Weekly Inspection Log For Building 695/STUG, 4/26/05.

Corrective Action

Within 30 days of receipt of this report, LLNL shall submit to DTSC, documentation to demonstrate that the crack in the reagent berm has been repaired.

VII. CONCLUSIONS

On May 5, 2005, Mr. Brocales and I met with DOE and LLNL personnel to discuss our findings from the inspection.

The meeting began with a brief introduction of all attendees (See Attachment AA, List of Attendees). I then thanked them all for coming to the meeting.

I began the discussion by identifying the areas that were inspected: Permitted Area 612 Facility including Consolidated Waste Accumulation Area - Area 612-4 Receiving, Segregation, and Container Storage Unit and Building 612 Lab Packing/Packaging Container Storage Unit; Building 693 Container Storage Unit, and the Decontamination and Waste Treatment Facility in Building 695. I also identified the records that were reviewed.

I discussed my observations on the inspection logs review and I informed them that I did not find any violation from the records that I have reviewed. I stated that additional records will be reviewed and that any violations found will be included in the report.

I also informed them that I did not find any violation from the walk-through and the initial review of documents. A Summary of Observations was issued to LLNL (See Attachment C). I stated that if any violations are found from the review of additional documents, it will be incorporated in the inspection report.

Pertaining to the sorting table violation from the 2004 inspection, I stated that the violation will be downgraded to a minor violation which will be addressed in a letter to LLNL. A letter was sent to LLNL on June 21, 2005 (Attachment BB).

I thanked them for their efforts in trying to be in compliance and I complimented management and all the employees who were involved in the inspection for their cooperation.

VIII. ATTACHMENTS

Attachment A -	Site Maps/Photographs.
Attachment B -	Hazardous Waste Facility Permit,
Attachment C -	Summary of Observations, 1 page.
Attachment D -	Manifest nos. 2231051; 21766644; 99555219
Attachment E -	Waste Disposal Requisitions: W105989/612B102; W105990/612B103; W108085/612B104; W123208/612B101; W127137/612H117.
Attachment F-	Legacy Chlorosolvents-Composite Samples taken from Tanks/Transaction –Transfer Record
Attachment G-	Status of B514 Wastes Without Extension Granted/Container Contents Report for Mixed Waste Quad Tanks and Mixed Waste Piping Containers
Attachment H-	Transportainer Q201132 Containing Crushed Steel Tanks from Area 514
Attachment I-	Transportainer Q201133 Containing Crushed Steel Tanks from Area 514
Attachment J-.	Container Contents Report for Q20575, Q63697, Q12307, and Q80872
Attachment K-	Inventory of Wastes in Permitted Units
Attachment L-	Approval of Closure Plan, dated April 30, 2004
Attachment M-	Closure Plan For the Area 514 Treatment and Storage Facility (Without Appendices, Figures and Tables)
Attachment N-	Appendix B, Sampling and Analysis Plan for the Area 514 Closure Plan
Attachment O-	Partial Closure Report for Area 514 (without attachments)
Attachment P-	Daily Observations Report (Appendix A of the Area 514 Partial Closure Report, April 2005.
Attachment Q-	90-Day Extension Requests and DTSC Responses (Appendix I of the Area 514 Partial Closure Report)
Attachment R-	Calendar Year 2004 Treatability Study Report /RWPA Treatment Logs
Attachment S-	Inspection Logs for Building 695, B693 Segment, Area 612, and Area 514.

Attachment T-	Daily When In Use Inspection Logs for the Container Crushing Unit (612-100) and B612 Size Reduction Unit
Attachment U-	Treatment Logs for the Debris Washer, Uranium Deactivation (also Inspection Log) and Stabilization Units.
Attachment V-	Training Matrices, Training Records and Training Summary
Attachment W-	Cover Letter for the 2004 Annual Facility Report
Attachment X-	Hazardous Waste Transporter Registration
Attachment Y-	Status of Containers Stored Over a Year
Attachment Z-	DTSC's December 9, 2005 Letter to LLNL, Class 2 Modification Request Approval
Attachment AA-	List of Attendees
Attachment BB-	June 21, 2005 letter to LLNL
Attachment CC-	RCRA Facility Questionnaire

IX. REPORT WRITTEN BY:

Original signed by Luz Castillo
Luz T. Castillo
Senior Hazardous Substances Scientist
Statewide Compliance Division

August 29, 2006
Date